UNITED STATES PATENT AND TRADEMARK OFFICE

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ART UNIT	PAPER NUMBER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>28 February 2007</u>.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-3, 5-16 and 18-26</u> is/are pending in the application.

    4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) <u>1-3, 5-16 and 18-26</u> is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☒ The drawing(s) filed on <u>29 October 2003</u> is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.

    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

    a) ☐ All   b) ☐ Some * c) ☐ None of:

        1. ☐ Certified copies of the priority documents have been received.

        2. ☐ Certified copies of the priority documents have been received in Application No. _____.

        3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)

2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3) ☒ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date <u>11/13/06, 1/29/07</u>.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.

5) ☐ Notice of Informal Patent Application

6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 112

1.   __The following is a quotation of the second paragraph of 35 U.S.C. 112__:

> The specification shall conclude with one or more claims particularly pointing out and distinctly
> claiming the subject matter which the applicant regards as his invention.

2.   Claims 1 and 14 are rejected under 35 U.S.C. 112, second paragraph, as being

indefinite for failing to particularly point out and distinctly claim the subject matter which

applicant regards as the invention.

3.   In particular, the phrases " the first" and " the second amount of free space" is

unclear, because claim language does not disclose any partitions on which those

separate free spaces could reside, furthermore it is also indefinite if the space

represents physical space (i.e. sectors on the disc drive) or virtual space (i.e. tables).

4.   For the purposes of the examination, the examiner assumes, that the first and

second amounts of the free space refer to the same free space allocated in the

database.

5.   __The following is a quotation of the first paragraph of 35 U.S.C. 112:__

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

6.   Claims 1 and 14 are rejected under 35 U.S.C. 112, first paragraph, as failing to

comply with the written description requirement. The claim(s) contains subject matter

which was not described in the specification in such a way as to reasonably convey to

one skilled in the relevant art that the inventor(s), at the time the application was filed,

had possession of the claimed invention. In this instance "first and second amounts of

the free space" were not disclosed in the body of the original specification, in contrast

the free space was not segmented into two separate spaces.

Claim Rejections - 35 USC § 102

7.   The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that

form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

8.   The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act

of 1999 (AIPA) and the Intellectual Property and High Technology Technical

Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting

directly or indirectly from an international application filed before November 29, 2000.

Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior

to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

9.   **Claims 1-3, 5-11, 13-16, 18-24 and 26 are rejected under 35 U.S.C. 102(e) as**

being anticipated by Chinta et al (US Patent 6879995).

      As to claims 1 and 14, Chinta discloses a method and a computer- readable

medium carrying one or more sequences for determining the usage of space in a

database, comprising: storing by a first database server (Figure 2C, 108A) a first set of

space usage data (column 39, lines 53-56 and figure 23, wherein check for out of

storage can be performed by each application server) that identifies a first amount of

free space associated with the database (Figure 2C, 110), wherein the first set of space

usage data is updated (Figure 23, step 502, check for out of storage and periodic

update), by the first server, based on changes made to the database by the first

database server (for instance logging message and minimizing existing free space);

retrieving, from one or more second database servers (Figure 2C, 108B), a second set

of space usage data (column 14, lines 3-9) that identifies a second amount of free

space associated with the database (Figure 2C, 110), wherein the second set of space

usage data is updated (Figure 23, step 502, check for out of storage and periodic

update (Figure 23, step 502, check for out of storage and periodic update, wherein this

step can be performed by any application server), by the one or more second database

servers, based on changes made to the database by the one or more second database

servers (logging messages and reducing space in the database by the second

application server); updating the first set of space usage data with the second set of

space usage data (column 14, lines 40-55, wherein the request for log could be

redirected to other application server, in this instance logging information in the

application server to which request was transferred might be updated with out of space

data for the new logging message/request, which might have a different size than the

previously existing one and therefore previous out of space data on the applicant data

might not be sufficient); and evaluating the usage of space in the database based on

the updated first set of space usage data (column 39, lines 42-56, in order to determine

if logging operation can be performed or resumed, the evaluation of database must be performed).

As to claims 2 and 15, Chinta discloses the method and a computer- readable medium carrying one or more sequences for determining the usage of space in a database, wherein the first set of space usage data and the second space usage data each reflect the amount of free space in one or more tablespaces that are each associated with the database (column 37, lines 50-51 and column 39, lines 53-56).

As to claims 3 and 16, Chinta discloses the method and a computer- readable medium carrying one or more sequences for determining the usage of space in a database, wherein the first set of space usage data and the second space usage data each reflect the amount of free space in one or more files (wherein database table is associate with a file) that are each associated with the database (column 37, lines 50-51 and column 39, lines 53-56).

As to claims 5 and 18, Chinta discloses the method and a computer- readable medium carrying one or more sequences for determining the usage of space in a database, wherein the step of storing the first set of space usage data comprises: storing a subset of the first set of space usage data (Figure 23, steps 502 and 504, and wherein server (108A or 108B) has a capacity to store the data), wherein each subset is associated with a transaction initiated by the first database server (prior to update space check there is a log in service associated with the application server, so that is the indication that the space check in the database should be performed) that is performed on the database.

As to claims 6 and 19, Chinta discloses the method and a computer- readable medium carrying one or more sequences for determining the usage of space in a database, wherein the step of storing the first set of space usage data comprises: examining the database to generate the first set of space usage data (column 5, lines 13-16).

As to claims 7 and 20, Chinta discloses the method and a computer- readable medium carrying one or more sequences for determining the usage of space in a database, wherein the step of retrieving the second set of space usage data comprises: determining that a configurable period of time has expired (Figure 23, step 502, wherein the space check occurs periodically, i.e. set time; paragraph 39, lines 53-56), wherein the configurable period of time indicates an amount of time to wait before retrieving second the second set of space usage data from one or more second clients.

As to claims 8 and 21, Chinta discloses the method and a computer- readable medium carrying one or more sequences for determining the usage of space in a database, wherein the step of evaluating the usage of space in the database comprises: determining if a tablespace in the database has exceeded a configurable threshold (column 40, lines 25-31; wherein the amount if remaining storage space that is associated with low level of storage space is considered to be threshold).

As to claims 9 and 22, Chinta discloses the method and a computer- readable medium carrying one or more sequences for determining the usage of space in a database, comprising: raising an alert that indicates that the usage of space in a

tablespace in the database has exceeded a configurable threshold (column 40, lines 11-16).

As to claims 10 and 23, Chinta discloses the method and a computer- readable medium carrying one or more sequences for determining the usage of space in a database, comprising: in response to the step pf evaluating of the usage of space in the database, scheduling space reclamation for the database (Figure 23, step 510).

As to claims 11 and 24, Chinta discloses the method and a computer- readable medium carrying one or more sequences for determining the usage of space in a database, wherein the database is in a distributed cluster if databases (as shown in figure 2A application servers and main database are all connected (cluster), since application servers have storage capability the can also be considered a database (server for storing data)).

As to claims 13 and 26, Chinta discloses the method and a computer- readable medium carrying one or more sequences for determining the usage of space in a database, wherein the steps of retrieving, updating, and evaluating may be repeated in sequence after a configurable amount of time lapses the step of evaluating was last performed (as shown in figure 23, if the system is not our of space (step 504) the flow chart loops so that the steps of checking and evaluating can be performed again).

Claim Rejections - 35 USC § 103

10.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

11.   **Claims 12 and 25 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chinta et al (US Patent 6879995) in the view of Levine et al (US Publication 20030177187).** Chinta teaches all the limitations disclosed in claims 1 and 14, except for the database being in a grid of databases. Levine heals this deficiency by teaching computing grid for massively multi-user immersive persistent-state and session based applications (Figure 7). It would have been obvious to one of the ordinary skill in the art during the time the invention was made to use a database in a grid of databases in the Chinta's monitoring system because as taught by Levine computing grid speeds up the access time and improves functionality of the network.

Response to Arguments

12.   Applicant's arguments filed February 26, 2007 have been fully considered but they are not persuasive.

13.   With respect to the applicant's assertion on page 9, second paragraph alleging that Chinta does not teach the database server shown in Fig. 2C stores any data that identifies a first amount of free space associated with the database, the examiner disagrees. Figure 23 clearly shows that free space in the database is periodically checked by the application server (Figure 23, element 502), further this information would have to be stored by this application server at the very least temporarily, in order to check if the space is sufficient for the message logging.

14.   Furthermore, the applicant alleges that the current application is very different

than Chinta's reference, because in the current invention, it is not necessary to access

the database to determine how much free space is associated with the database.

However, how is that possible to establish free space in the database, if the information

regarding the storage volume is never accessed?

15.   Moreover, on page 10, the applicant asserts that Chinta also does not teach a

database server updating any data that identifies an amount of free space associated

with a database based on changes made to the database by the database server, the

examiner respectfully disagrees. As clearly stated in column 37, lines 56-61, the log is

not updated continuously, instead it is updated periodically. Furthermore, logging

service monitors the amount of storage space available for logging, so that if the free

space is not sufficient, an error message will be issued and stored in the log file. If after

storing of a logging message the storage space is low, the error message can also be

issued. Therefore the log file can be updated, for instance from a low storage space to

out of storage space.

16.   With respect to the last assertion on page 10, second paragraph, stating that

Chinta does not teach that a database server never retrieves, from another database

server, a second set of space usage data that identifies a second amount of free space

associated with the database, where the second set of space usage data is updated by

the other database server, based on changes made to the database by the other

database server, the examiner agrees that Chinta does not state all these limitations

very explicitly, however he does imply this functionality. In column 14, lines 3-9, Chinta

states that the updated information can be broadcasted among application servers and further the requests submitted by a user can be redirected to the other servers, what means that the log associated with this request will have a different size and therefore requires new check for available storage. This in fact causes an override or update of the logging information residing on the server to which the request was forwarded to.

Conclusion

17.   **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

18.   A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Inquiry

19.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to Angela M. Lie whose telephone number is 571-272-8445. The examiner can normally be reached on M-F.
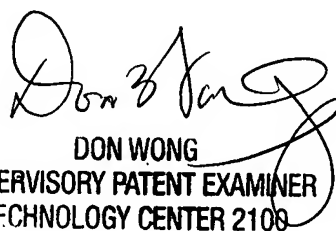
20.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Don Wong can be reached on 571-272-1834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

21.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

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